



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D4943-1
Job Sheet 168433



Part No: D4943-1
Part Name: Flex Hose

Job Qty: 20 ea



Part Weight: 0 lbs

Status: Scheduled

Priority: High

Job Created: 11/14/17

Job Tracking No:

Due Date: 3/30/18

Created By: Linda Lacelle

Type: SOLD

Description:

Note: DWG REV C IPP REV.A NEW ISSUE JFS 13/09/19 VERIFY BY: DD IPP REV.B 14.05.05 AS PER DWG
REV.B DD VERF BY:JLM IPP REV:C 14.06.18 AS PER DWG REV.C DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	20 pcs	3/30/18	3/30/18	0.00	0.00	Purchasing		21/05/16
110	Packaging	20 pcs	3/30/18	3/30/18	0.00	0.00	Packaging2		21/05/16
120	QC	20 pcs	3/30/18	3/30/18	0.00	0.00	QC6		1 MAY 28 2018
130	Packaging	20 pcs	3/30/18	3/30/18	0.00	0.00	Packaging3	5/22/06	10/06/2018
140	QC21-SA	20 Ea	3/30/18	3/30/18	0.00	0.00	QC21		21 JUN 11 2018

Part Op 100 - Issue P/O: 039275 Purchase part #: 12EAS12S-03900F Possible supplier: AERO-FLEX Certificate of
Descriptions: conformity is required
110 - Certificate of conformity is required.

MAR 12 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
12EAS1S2-03900F	Flex Hose	20 pcs (1 ea)	100-Purchasing	5072109

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	12EAS1S2-03900F	20	0	0

Part Specifications

Specifications could not be found.

Plex 3/12/18 11:18 AM dart.baker.diane



Container No: S072110



Part: D4943-1

Job No: 168433

Serial No/Batch: S072110

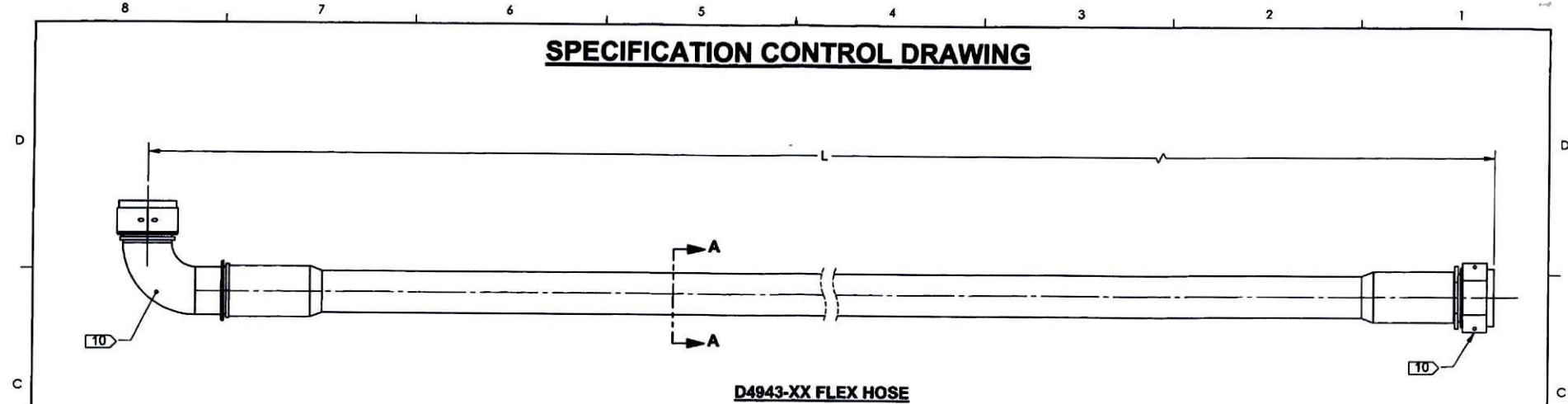
Revision:

Inspector:

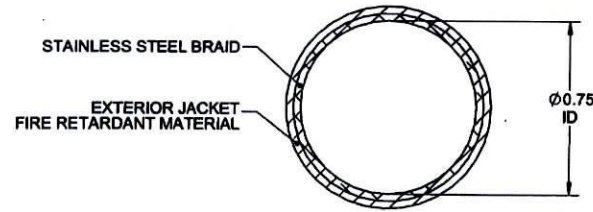
Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 05/16/10

SPECIFICATION CONTROL DRAWING



D4943-XX FLEX HOSE



**SECTION A-A
TUBE BUILD-UP**

DART P/N	L	VENDOR	VENDOR P/N	WEIGHT
D4943-1	40.00	AERO-FLEX	12EAS12S-03900F OR 12EAS1S2-03900F	1.3 lbs

△

RELEASED
2014-06-16

NOTES:

- 1) MATERIAL: BRAID: STAINLESS STEEL PER MANUFACTURER
JACKET: FIRE RETARDANT MATERIAL PER MANUFACTURER
END FITTING: STAINLESS STEEL PER MANUFACTURER
- 2) FINISH: N/A
- 3) TOLERANCES: N/A
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: PER QSI 044 6.1.
- 7) WEIGHT: SEE TABLE
- 8) MAXIMUM OPERATING TEMPERATURE 500 °F
- 9) MAXIMUM OPERATING PRESSURE 120 PSI
- 10) END FITTING REQUIREMENTS: FEMALE, 3/4, 37° JIC FITTING (THREAD 1-1/16 UN), WITH LOCKWIRE HOLES

APPROVED

C	SEE CHART ADDED ADDITIONAL ACCEPTABLE P/N	AJS	14.05.01
B	SEE CHART: VENDOR WAS SWAGELOK, VENDOR P/N WAS SS-FJ12TA12AS12-40F. REASON: VENDOR CHANGED FOR LEADTIME ISSUES.	AJS	14.03.14
A	NEW ISSUE	AJS	13.09.18
REV.	DESCRIPTION	BY	DATE
DESIGN	AS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. C
MFG. APPR.	JLM	D4943	SHEET 1 OF 1
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	FLEX HOSE	NTS
DATE	14.05.01	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS BUILT ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO039275

Supplier: AEF002-VU
Aero-Flex Corp
3147 Jupiter Park Cir
Jupiter, FL 33458 USA
Phone: 561-745-2534
Fax: 561-745-2537

PO No: PO039275

PO Date: 3/12/18

Due Date: 5/21/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments: Quote # Q180309EH

E-MAILED
MAR 12 2018
copy

Items

Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	12EAS1S2-03900F			Flex Hose As Per Dwg D4943 Rev. C	Firmed	5/21/18	20 pcs	0 pcs 20x	20 pcs	\$524.81/pcs AF18/05/16	\$10,496.20

Line Item Note job# 168433

Grand Total: \$10,496.20

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

[Handwritten signature]

Plex 3/12/18 12:40 PM dart.baker.diane

DAS
11
9-89

FILE NO: 5187



AERO-FLEX CORPORATION
QUALITY MANAGEMENT SYSTEM

PRODUCTION ROUTER

Form	Section
4QF020 01	QMS T4
Revision	Page
C	1 of 4

STAPLE HERE

Router No: **STK5187** Customer Aero-Flex Corporation PO No: STK5187 PO Line: 1 Frozen Process ☐
 PO Qty: **20** Part: 12EAS1S2-03900F Part Rev - Dwg No 12EAS1S2-03900F Dwg Rev: - Authority: AWS D17.1 DUE: **05/21/2018**
 Description: **HOSE ASSEMBLY, 12EAS12S-03900F**

FINAL Q.C. INSPECTION

KEY	ITEM/REQUIREMENT	TOL.	MEASURE DEVICE	RESULTS	STAMP	SPLIT ORDER
☐	DIMENSIONS - DWG D4943 REV B AS NOTED	40" ± 1/16"	PRECISION RULE	40" ± 1/32"		
☐	VISUAL INSPECTION	AF2QP023	AWS CWI	PASS		
☐	PRESSURE - HYDRO - 180 PSIG/10 MINUTES (MINIMUM)	AF2QP024	GAUGE S/N AFCG301	PASS		
☐	ASSEMBLY IDENTIFICATION PER TAG/PRODUCT MARKING INSTRUCTIONS	AF2QP008 PARA 5.4	VISUAL	PASS		
☐	INSPECT ID FOD & RETURN TO PRODUCTION FOR CAPPING	AF2QP015	VISUAL	PASS		
ROUTER COMPLETION		2QP020	AWS CWI	QTY PASS 20	QTY FAIL 0	
ALL PRODUCTION & INSPECTION/VERIFICATION OPERATIONS ARE COMPLETE						

Michael Scott
CWI 10021161
QC1 EXP. 2/1/2019

BILL OF MATERIAL

ITEM	DESCRIPTION	QTY	UOM	PART	A-F LOT NO.	QTY	STAMP	MANAGEMENT REMARKS
1	AMFM D-61 SS SOLID BRAID BAND 1.305" ID X 3/4" WIDTH X .049" THK. 304SS, A240 OR A249 OR A269 BSD61SS 180327B (6)	40	EA	BSD61SS 59	*140513B (3) 180327B	40	4/15/13	CHANGED HBT for tighter Fit
2	US HOSE 3/4" 401M HEAVY WEIGHT T321 HOSE W/ T321 SINGLE BRAID	780	IN	HH12B401M	180403A B	780	4/15/13	
3	ADAPTOR, STRAIGHT, 3/4" BW END X -12 FEMALE JIC SWIVEL, 37" FLARED, 316SS W/ 2 LOCK WIRE HOLES	20	EA	3/4BHJS12-2WIRE	180413A	20	4/13/13	Requires Hose Prep
4	ADAPTOR, 90° ELBOW, PIPE TO TUBE, 3/4" BW END, SWIVEL, 37" FLARED, -12, 316SS W/ 2 LOCK WIRE HOLES	20	EA	3/4BHJSE12-2WIRE	180413B	20	4/13/13	
5	FIRE SLEEVE -20 AEROSPACE QUALITY	740	IN	FIRE20F	180322G (450") 170206B (300")	750	5/31/13	

SCRAP

Aero-Flex Corporation
 3147 Jupiter Park Circle, Ste. 2
 Jupiter, Florida 33458
 Ph 561.745.2534 Fax 561.745.2537



PRESSURE TESTING / HELIUM MASS SPEC EXAMINATION REPORT

☐ Aerospace ☒ Ground Support

TO Aero-Flex Corporation				FROM Anthony Petty		DATE 05/07/2018	
PROJECT AF Dwg: 12EAS1S2-03900F Dwg Rev: - Part: 12EAS1S2-03900F Part Rev: -							
PURCHASE ORDER NO. AF INVENTORY Line 1				AF ROUTER NO. STK5187			
ITEM	☒ Weld ☐ Castings ☒ Pipe ☐ Machined Parts		Other Hose				
	☒ Non-Weld ☐ Castings ☒ Pipe ☐ Machined Parts		Other Hose				
MATERIAL	Size 3/4"	No. of pieces 20	Type of Base Metal AUSS	Type of Filler Metal P8	WELD ☒ As Welded ☐ Smooth		
LOCATION	Location Aero-Flex Corporation			System PT-001			
Acceptance Standard CUSTOMER				Procedure AF 2QP024			
TYPE OF CHECK	☒ Initial ☐ In Process ☐ Rework ☐ 24 Hr ☐ 7 Day ☒ Final						
TYPE OF INSPECTION METHOD	☒ Hydrostatic ☐ Pneumatic ☐ Bubble Test ☐ HMST-Pressurized Components ☐ HMST-Evacuated Components						
	Test Pressure/Vacuum 180 PSIG		Test Temperature 75°F Ambient		HMST Test Instrument N/A		
	Test Medium/Concentration Potable Tap Water		Bubble Solution N/A		HMST Standard Leak N/A		
	Gage Mfr. McDaniel	Model FIP-GF	Range 0-3000 PSIG	ID Number AFCG301	Tracer Gas/Concentration N/A		
	Soak Time/Test Holding Time 10 Minutes Minimum				HMST Sensitivity Acceptance N/A		
Reference Summary CUTOMER DRAWING				Results of Inspection Satisfactory/Pass No Leaks were Detected.			
CopyTo: AF File		Requested By PO Contract		Reported By Anthony Petty			
		☐ Customer Specifications ☒ Accept ☐ Reject		Quality Designee Michael Scott			

NOTICE: THIS EXAMINATION REPORT IS A REPORT OF THE RESULTS OF THE TEST PROCEDURES ACTUALLY PERFORMED BY THIS COMPANY. IT IS SUBJECT TO THE LIMITATIONS OF THE TESTING SPECIFICATIONS AND PROCEDURES WHICH WERE UTILIZED. BY FURNISHING THIS REPORT, AERO-FLEX CORPORATION DOES NOT GUARANTEE ANY CONDITION OF THE TESTED SPECIMEN.

**MATERIAL TEST REPORT (MTR) for 316 / 316L SS PRODUCT SHIPPED:**
CERTIFICATE OF CONFORMANCE TO EN10204 & DIN50049, Type 3.1**Fittings****Customer (Sold To)**

AERO-FLEX
3147 JUPITER PARK CR STE #2
JUPITER FL 33458

Customer P.O.

180319EH2

SSP Order No.

2803947

Date:

4/10/2018

Product Category

Fittings

Item	Quantity	Part Number	Heat Code(s)
1	25	3/4BHJS12-2WIRE	MAL LSK

SSP hereby certifies that all materials used in the manufacture of parts supplied conform to the material and/ or manufacturing specifications cited on the purchase order, catalogs and Certificate of Conformance.

This MTR complies with the non-specific inspection requirements of EN 10204. It does not apply to hardware items such as springs, o-rings, gaskets, snap rings, balls, jam or lock nuts, handles, lanyards, etc.

All products are cleaned and packaged in accordance with SSP specifications.

In accordance with the provisions of **Directive 2011 / 95 / EC (RoHS II)**, all SSP products and packaging are in conformance with the requirements of this directive, and contain less than the limiting levels of restricted hazardous substances:

Lead (Pb), Mercury (Hg), Hexavalent Chromium [Cr(VI)], Cadmium (Cd), Polybromated flame retardants [Biphenyl (PBB) or dephenyl ether (PBDE)], or Perfluorooctane sulfonate compounds (PFOS).

No mercury was used in directly-connected manometers, seals, pumps, or glass thermometers, nor has mercury been handled in the immediate vicinity, during any stage of production or testing.

Also all SSP products and packaging are in conformance with the requirements of REACH / SVHC.

All products manufactured by SSP are Asbestos-free.

Typical mechanical and chemical analysis of the material used in the manufacture of SSP products are listed below. These values are average values confirmed by examination of certified material test reports and authenticated through non-destructive x-ray fluorescence inspection.

MATERIAL STANDARD

COMPONENT	MATERIAL	STANDARDS
Forged	316 / 316L SS	316 / 316L SS, UNS S31600/S31603, EN 10088-3 1.440/1.4404ASTM A182 A479, A484, ASME SA479
Bar stock	316 / 316L SS	316 / 316L SS, UNS S31600/S31603, ASTM A182 A479, A484, ASME SA479

MECHANICAL PROPERTIES

COMPONENT	YIELD STR.	TENSILE STR.	ELONG. RED. AREA		HARDNESS	
	(ksi / MPa)	(ksi / MPa)	(%)	(%)	HRB	HB
Forged	71.8 / 495	96.2 / 663	41.8	73.9	82	192
Bar stock	81.4 / 561	98.4 / 678	36.1	73.5		197.5

CHEMICAL ANALYSIS

COMPONENT	C	Cr	Mn	Mo	N	Ni	P	S	Si	Cu
Forged	0.02	16.69	1.51	2.04	0.03	10.72	0.03	0.03	0.51	0.65
Bar stock	0.02	16.73	1.59	2.05	0.02	11.13	0.02	0.03	0.58	0.8

NOTE: Austenitic stainless steel material has passed the Intergranular Corrosion Test requirements of ASTM A262, Practice A.

Quality Assurance

Engineering

**MATERIAL TEST REPORT (MTR) for 316 / 316L SS PRODUCT SHIPPED:**
CERTIFICATE OF CONFORMANCE TO EN10204 & DIN50049, Type 3.1**Fittings****Customer (Sold To)**

AERO-FLEX
3147 JUPITER PARK CR STE #2
JUPITER FL 33458

Customer P.O.

180319EH2

SSP Order No.

2803947

Date:

4/10/2018

Product Category

Fittings

Item	Quantity	Part Number	Heat Code(s)				
2	25	3/4BHJSE12-2WIRE	LSK	XE			

SSP hereby certifies that all materials used in the manufacture of parts supplied conform to the material and/ or manufacturing specifications cited on the purchase order, catalogs and Certificate of Conformance.

This MTR complies with the non-specific inspection requirements of EN 10204. It does not apply to hardware items such as springs, o-rings, gaskets, snap rings, balls, jam or lock nuts, handles, lanyards, etc.

All products are cleaned and packaged in accordance with SSP specifications.

In accordance with the provisions of **Directive 2011 / 95 / EC (RoHS II)**, all SSP products and packaging are in conformance with the requirements of this directive, and contain less than the limiting levels of restricted hazardous substances:

Lead (Pb), Mercury (Hg), Hexavalent Chromium [Cr(VI)], Cadmium (Cd), Polybromated flame retardants [Biphenyl (PBB) or dephenyl ether (PBDE)], or Perfluorooctane sulfonate compounds (PFOS).

No mercury was used in directly-connected manometers, seals, pumps, or glass thermometers, nor has mercury been handled in the immediate vicinity, during any stage of production or testing.

Also all SSP products and packaging are in conformance with the requirements of REACH / SVHC.

All products manufactured by SSP are Asbestos-free.

Typical mechanical and chemical analysis of the material used in the manufacture of SSP products are listed below. These values are average values confirmed by examination of certified material test reports and authenticated through non-destructive x-ray fluorescence inspection.

MATERIAL STANDARD

COMPONENT	MATERIAL	STANDARDS
Forged	316 / 316L SS	316 / 316L SS, UNS S31600/S31603, EN 10088-3 1.4401/1.4404 ASTM A182 A479, A484, ASME SA479
Bar stock	316 / 316L SS	316 / 316L SS, UNS S31600/S31603, ASTM A182 A479, A484, ASME SA479

MECHANICAL PROPERTIES

COMPONENT	YIELD STR.	TENSILE STR.	ELONG.	RED. AREA	HARDNESS	
	(ksi / MPa)	(ksi / MPa)	(%)	(%)	HRB	HB
Forged	71.8 / 495	96.2 / 663	41.8	73.9	82	192
Bar stock	81.4 / 561	98.4 / 678	36.1	73.5		197.5

CHEMICAL ANALYSIS

COMPONENT	C	Cr	Mn	Mo	N	Ni	P	S	Si	Cu
Forged	0.02	16.69	1.51	2.04	0.03	10.72	0.03	0.03	0.51	0.65
Bar stock	0.02	16.73	1.59	2.05	0.02	11.13	0.02	0.03	0.58	0.8

NOTE: Austenitic stainless steel material has passed the Intergranular Corrosion Test requirements of ASTM A262, Practice A.

Quality Assurance

Engineering

E-014 Standard MTR Certificate

Current Rev: R



180413 A, B

CERTIFICATE of CONFORMANCE and ORIGIN

SSP certifies that SSP is the manufacturer of all valves and fittings contained in this shipment. All SSP products are manufactured in the United States of America.

SSP also certifies all materials used in the manufacture of parts in this shipment conform to the requirements for the material as listed below. All markings have been applied either by low stress stamping, stenciling, or laser marking as permitted by ASME Section III.

QUALITY MANAGEMENT STANDARDS

SSP's Quality System is certified to ISO 9001:2008 and ISO 17025 lab Management System Standards ensuring products are manufactured and tested to technical design specifications and quality control standards.

DESIGN STANDARDS

All products of all alloy types are designed and manufactured per ANSI B-31.1 or ANSI B-31.3. Other design standards may also be utilized depending upon the product.

MATERIAL STANDARDS

COMPONENT	MATERIAL	STANDARDS
Forged component	316/316L, 304/304L stainless	ASME SA182 and ASTM A-479
Forged component	CA-377 brass	ASTM B-124
Forged component	Carbon steel	ASTM A-179
Forged component	Monel 400 & Hastelloy C276	ASTM B-564
Bar stock component	316/316L, 304/304L stainless	ASTM A-479 and ASTM A-276
Bar stock component	CA-345 and 360 brass	ASTM B-453 and ASTM B-16
Bar stock component	Carbon steel	ASTM A-108
Bar stock component	Monel 400	ASTM B-164
Bar stock component	Hastelloy C276	ASTM B-574 and ASTM B-575
Bar stock component	17-4PH	ASTM A-564
Tubing	316/316L	ASME SA213 and ASTM A-213/A269

No mercury was used in directly-connected manometers, seals, pumps, or glass thermometers during production or testing. No mercury has been handled in the immediate vicinity during production or testing. All products manufactured by SSP are Asbestos-free.

This blanket certification is for use as a general certification and is not to be altered in any manner. This certification is only applicable to materials shipped directly from SSP or an SSP authorized distributor and must be accompanied by the appropriate shipping documents which reference the SSP products shipped.

APPROVED: _____
Quality Assurance

APPROVED: _____
Engineering



**AMFM INCORPORATED
CERTIFICATION TRANSMITTAL**

Date: 6/12/2015
Customer: AERO-FLEX CORP.
Part Covered: D-59 SS

P.O.#: 1506011EH2

Date Shipped:

JUN 15 2015

Shipping Supervisor

**RON S.
AMFM, INC.**

AMFM Presentation of Certificate

Vendor#:	1171	Date Shipped:	5/19/15
Mtl Control #:	6506	Grade:	304
Shop Order #:	C283791/1	Size:	D-1
Specification:	ASTM A249/A269/A554		

Chemical Analysis:

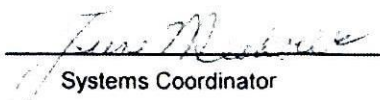
Heat Number:	(C)	(Mn)	(P)	(S)	(Si)	(Cr)	(Ni)	(Mo)	(Cu)	(N)	(Co)
844640	0.0100	1.5100	0.0320	0.0120	0.3700	18.2000	8.1000	0.2700	0.3800	0.0600	0.12

Physical Properties:

Heat Number:	Yield/PSI	Tensile/PSI	Elong (%)	Hardness
844640	52,700	95,000	57.0	84.0

DFARS COMPLIANT

X


Systems Coordinator

To the best of this company's knowledge, this material is free of Mercury contamination. The above information is a true copy of data on file as reported from the originating steel mill and production documentation. Mechanical properties are as reported of the material in strip form. Subject to any clerical error or omission.

AMFM INCORPORATED
CERTIFICATION TRANSMITTAL

Date: 5/6/2014
Customer: AERO-FLEX CORP.
Part Covered: D-59 SS

P.O.#: 140505EH
Date Shipped: MAY 08 2014

BOB S.
AMFM, Inc.
Shipping Supervisor

AMFM Presentation of Certificate

Vendor#:	1171	Date Shipped:	4/4/14
Mtl Control #:	4044	Grade:	304
Shop Order #:	C269240/1	Size:	D-1
Specification:	ASTM A249/A269/A554		

140513B

Chemical Analysis:

Heat Number:	(C)	(Mn)	(P)	(S)	(Si)	(Cr)	(Ni)	(Mo)	(Cu)	(N)	(Co)
953091	0.0160	1.6600	0.0320	0.0110	0.4800	18.2000	8.1000	0.3400	0.4800	0.0600	0.1600

Physical Properties:

Heat Number:	Yield/PSI	Tensile/PSI	Elong (%)	Hardness
953091	56,800	98,000	58.0	88.0

DFARS COMPLIANT

X

Lucas Meadows
Systems Coordinator

To the best of this company's knowledge, this material is free of Mercury contamination. The above information is a true copy of data on file as reported from the originating steel mill and production documentation. Mechanical properties are as reported of the material in strip form. Subject to any clerical error or omission.

CERTIFICATE OF CONFORMANCE

Customer's Name: AERO-FLEX

Customer's Address: JUPITER, FL 33458

Customer's Purchase Order: 180319EH3

U.S. Hose Corp. Order No.: 212851

Quantity & Description:

LINE # 1 QTY: 75 FT [HOSE 321 400M 3/4"]

18φ4φ3A

PN: 0320-048-500

LINE # 2 QTY: 75 FT [BRAID 48XX.0126 T-321 3/4"]

18φ4φ3B

PN: 0903-113-600

Additional Information:

U.S. Hose Corporation Romeoville hereby certifies that all material used in the manufacture of the above order conforms to material and/or manufacturing specifications detailed on U.S. Hose Corporation Romeoville drawings and/or specifications listed above and are in accordance with the manufacturing provisions of the order.

By: Jorge Q.

Date: 3/28/2018

Sign: *[Signature]*

Quality Assurance Representative



SF-319
04/13/16

0903-113-600

75'
ft



BRAID 48X6X 0126 T-321 3/4"

HOSE INFORMATION

M-Order

Material

Heat #

BRAID INFORMATION

M-Order M295275

Material T321

Heat # V11940

HOSE
CORPORATION

18φ4φ3B



COMBINED METALS OF CHICAGO
ONE HAWK RD
HAMPSHIRE IL 60140
Phone: (847)683-0500
Fax: (847)683-4486
http://www.combmet.com

CMC ORDER NO.	YOUR P.O. NO.	LOT CODE	Page No.
21-94761	900745	52656	1 of 1

MATERIAL TEST CERTIFICATE
EN 10204:2004 - 3.1

180403A

31509

CUSTOMER		PRODUCT		SPECIFICATION		
U.S. HOSE CORPORATION 815 FORESTWOOD DRIVE ROMEDEVILLE, IL 60446		321 CA2 ANNEALED COIL Thickness(in.): .015+/-0.005(.0145/.0155) Width: 3.474+/-0.003 Customer Part #: 01-16-014-13 UNS: S32100		USHO SF-MS01-321-Type1 321 Rev# i There are exceptions to the above specifications. See the min/max ranges below for details.		
HEAT NUMBER	MASTER TAG #	COIL ID	QTY SHIPPED	MILL SOURCE	MELT COUNTRY	ORIGIN COUNTRY
637V	610277	01637VAA	421	NORTH AMERICAN STAINLESS	USA	USA

SHIP TAG NUMBERS

611530 (421 lbs)

CHEMICAL ANALYSIS % PULLED FROM MILL SOURCE (WEIGHT PERCENT) per ASTM E1086

	C	Mn	P	S	Si	Cr	Ni	Mo	Cu	Ti	Al	N	Co	B
Min						17	9			5x(C+N)				
Max	0.08	2	0.045	0.03	0.75	19	12			0.7		0.1		
Actual	0.012	1.548	0.03	0.001	0.323	17.0615	9.0305	0.2225	0.3715	0.2	0.0395	0.0167	0.149	0.0004
	Cb		DELFER		Ni+Co									

0.006 4.5598 9.1795

Mechanical and Physical Properties per ASTM E8									Surface Roughness Type:		
ASTM A262 Method E			Bend Test Results:								
Head			Head			Tail			Head		
HV	Grain Size	Test Dir. Trans.	Tensile PSI	Yield PSI	Elong. %	Tensile PSI	Yield PSI	Elong. %		Long	Trans
168	7	Min	74694	29733	50	74694	29733	50	Min		Micro mm
122.4	10	Max		40611			40611		Max		Micro mm
	9	Actual	85000	33300	60				Actual		Micro mm
Tail			Head			Tail			Inclusion Rating Test Method		
HV	Grain Size	Test Dir. Long.	Tensile PSI	Yield PSI	Elong. %	Tensile PSI	Yield PSI	Elong. %	Type A	Type B	Type C
168	7	Min							Thin	Thin	Thin
126	10	Max							Thin	Thin	Thin
		Actual							Thick	Thick	Thick

Testing Source	Chemistry from mill source listed above. Mechanical Properties taken from A2LA approved lab. Reference Lot Code above.
Comments	ROHS COMPLIANT

WE HEREBY CERTIFY THE MATERIAL SHIPPED TO THE ABOVE-SPECIFIED SPECIFICATION CONFORMS TO THE STATED CHEMICAL AND PHYSICAL REQUIREMENT TERMS AND PROCESSED FREE OF MERCURY (UNLESS OTHERWISE STATED). THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ELGILOY SPECIALTY METALS. THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OF ENTRIES ON THIS DOCUMENT MAY BE A PUNISHABLE OFFENCE UNDER FEDERAL AND STATE LAW.

INSPECTORS STAMP

AUTHORIZED SIGNATURE: <u>Fred C. Donofrio</u>	DATE 02-21-18
Fred Donofrio, GENERAL MANAGER QUALITY ASSURANCE	

US HOSE CORP.
ORDER# 212851
REFERENCE# 180319EH3
LINE# 1
PART# 0320-048-500

180403B



VENUS WIRE INDUSTRIES PRIVATE LIMITED

REGD.OFFICE : 19 RAGHU VANSHI MILL COMPOUND, S. B.MARG, LOWER PAREL, MUMBAI 400 013. (INDIA)
TEL.: +91(22)30451000/24978840 FAX: +91(22)30451045/24978846 E-MAIL: enq@venuswires.com WEBSITE: www.venuswires.com

ISO: 9001:2008
CERTIFIED

No WD/VW/2017-18/1412

INSPECTION /MILL/MATERIAL/QUALITY /EN 10204/3.1 CERTIFICATE

PRODUCT INFORMATION	CUSTOMER : US HOSE CORPORATION, U.S.A.										GRADE : SF-321-W				
	INVOICE NO. : PM/170557										HEAT NO. : V11940				
	PRODUCT FORM : STAINLESS STEEL WIRE														
	DIMENSION : 0.0126" Tol:- ±0.0003"										QUANTITY : 2914.09 LBS				
	IDENTIFICATION : BOX NO. : NN 1884-1885, SPOOL NO. : SC 01-64														
CHEMICAL COMPOSITION	CONDITION : BRIGHT ANNEALED														
	ELEMENTS	C%	Si%	Mn %	P%	S%	Cr %	Ni %	Cu%	Mo %	N%	Nb%	Ti%	---	
	SPECIFIED	MIN MAX	----- 0.080	----- 1.000	----- 2.000	----- 0.045	----- 0.030	17.00 19.00	9.000 12.00	----- -----	----- -----	----- -----	----- -----	5 x C 0.800	---
	RESULTS		0.019	0.42	1.60	0.037	0.003	17.20	9.00	---	---	---	---	0.23	---
MECHANICAL PROPERTIES															
RESULTS		DIAMETER	UTS (PSI)	YS (0.2%) (PSI)	RA %	ELONGATION % (G1. 10")	HARDNESS								
SPECIFIED		MIN MAX	0.0123 0.0129	100077 123283	36260 56565	NA NA	35.00 ---	NA NA							
SPOOL NO :- SC 03		0.0125	104159	47013	---	38.00	---								
HEAT TREATMENT : * STRAND ANNEALED AT 1050°C.															
REMARKS : * MATERIAL IS FREE FROM MERCURY CONTAMINATION. * MATERIAL IS AS PER CUSTOMER SPECIFICATION SF-MS03 REV.C * CERTIFICATE ACC TO EN 10204/3.1b(FORMERLY DIN 50049 3.1). * CUSTOMER ORDER NO 801065, DATE 03-04-2017 * PART NO 75-16-012-01															
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE CUSTOMER'S REQUIREMENTS MECHANICAL TEST RESULTS ARE TAKEN RANDOMLY FROM THE LOT															
DATE 11/07/2017										 SHAIENDRA SHARMA (WORK INSPECTOR)					

DOC.No. F/QAD/06.R4

PLANT ATKARGAON, TAKALADOSH ROAD, KHALAPUR, KHOPOLI- 410203.
PHONES +91 (2192)304800/263404/262612 FAX +91 (2192) 304850/268873

31092

75-16-012-01

801065

180403B

 VENUS WIRE INDUSTRIES PRIVATE LIMITED REGD.OFFICE : 19 RAGHU VANSI MILL COMPOUND, S. B. MARG, LOWER PAREL, MUMBAI 400 013. (INDIA) TEL.: +91(22)30451000/24978840 FAX : +91(22)30451045/24978846 E-MAIL : wqi@venuswires.com WEBSITE : www.venuswires.com																
ISO: 9001:2008 CERTIFIED					INSPECTION /MILL/MATERIAL/QUALITY /EN 10204/3.1 CERTIFICATE											
PRODUCT INFORMATION		CUSTOMER : US HOSE CORPORATION, U.S.A.								GRADE : SF-321-W						
		INVOICE NO. : PM/170557								HEAT NO. : V11940						
		PRODUCT FORM : STAINLESS STEEL WIRE														
		DIMENSION : 0.0126"								QUANTITY : 2914.09 LBS						
		IDENTIFICATION : BOX NO. : NN 1884-1885, SPOOL NO. : SC 01-64														
CHEMICAL COMPOSITION		CONDITION : BRIGHT ANNEALED														
		ELEMENTS	C%	Si%	Mn %	P%	S%	Cr %	Ni %	Cu%	Mo %	N%	Nb%	Ti%	---	
		SPECIFIED	MIN MAX	----- 0.080	----- 1.000	----- 2.000	----- 0.045	----- 0.030	17.00 19.00	9.000 12.00	----- -----	----- -----	----- -----	----- -----	5.5 C 0.800	----- -----
		RESULTS		0.019	0.42	1.60	0.037	0.003	17.20	9.00	----	----	----	----	0.23	----
MECHANICAL PROPERTIES																
RESULTS		DIAMETER	UTS (PSI)		YS (0.2%) (PSI)		RA %		ELONGATION % (G1 10")		HARDNESS					
SPECIFIED		MIN MAX	0.0123 0.0129	100077 123283	36260 56565	NA NA	35.00 ---	NA NA								
SPOOL NO :- SC 03			0.0125	104159	47013	---	38.00	---								
HEAT TREATMENT : * STRAND ANNEALED AT 1050°C																
REMARKS : * MATERIAL IS FREE FROM MERCURY CONTAMINATION * MATERIAL IS AS PER CUSTOMER SPECIFICATION SF-MS03 REV.C * CERTIFICATE ACC TO EN 10204/3 1b(FORMERLY DIN 50049 3.1) * CUSTOMER ORDER NO 801065, DATE 03-04-2017 * PART NO : 75-16-012-01																
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DATE : 11/07/2017										 SHAIENDRA SHARMA (WORK INSPECTOR)						

31092

75-16-012-01

801065

DOC.No. F/QAD/06.R4

PLANT : ATKARGAON, TAKALADOSH ROAD, KHALAPUR, KHOPOLI- 410203
PHONES : +91 (2192)304800/263404/262612 FAX : +91 (2192) 304850/268873



180322G

February 1, 2017

Eric Hobart
Aero-Flex Corp.
3147 Jupiter Park Drive
Suite 2
Jupiter, FL 33458

Dear Eric:

In accordance with your request, we confirm that our Silco Sleeve Braided products (including the one you recently purchased from us on your PO 170131EH4) complies with the AS1072 build requirements with the single exception of the lack of any AS1072 identification printing on the outside of the sleeve.

We thank you and appreciate your business.

Very truly yours,

Davlyn Manufacturing Co., Inc

Joel Lukoff
President



CERTIFICATE OF COMPLIANCE

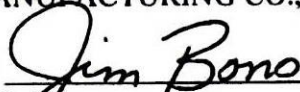
180322G 

CUSTOMER PURCHASE ORDER NUMBER: 180319EH4		
DRAWING NUMBER: N/A	REVISION NUMBER: N/A	QUANTITY: 50 FT

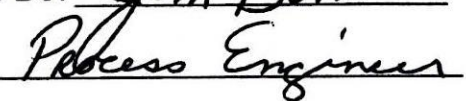
WE HEREBY CERTIFY, TO THE BEST OF OUR KNOWLEDGE AND BELIEF THAT THE MATERIAL USED IN THE FABRICATION OF THE ABOVE CONTRACT/ORDER MEETS ALL PHYSICAL AND CHEMICAL REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS CITED AND/OR CONTRACT REQUIREMENT OR DRAWING AS REQUIRED.

DAVLYN MANUFACTURING CO., INC.

SIGNED BY:



TITLE:



DATE:

March 20, 2018

DAS
11
9-89

MAY 28 2018

DATE OF MANUFACTURE: March 20, 2018
DAVLYN PRODUCT DESCRIPTION: 1 1/4" SILCO SLEEVE BRAID
DAVLYN SPECIFICATION NUMBER: S-E13170-20-B0



February 1, 2017

Eric Hobart
Aero-Flex Corp.
3147 Jupiter Park Drive
Suite 2
Jupiter, FL 33458

170206B

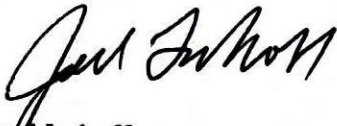

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We thank you and appreciate your business.

Very truly yours,

Davlyn Manufacturing Co., Inc



Joel Lukoff
President

